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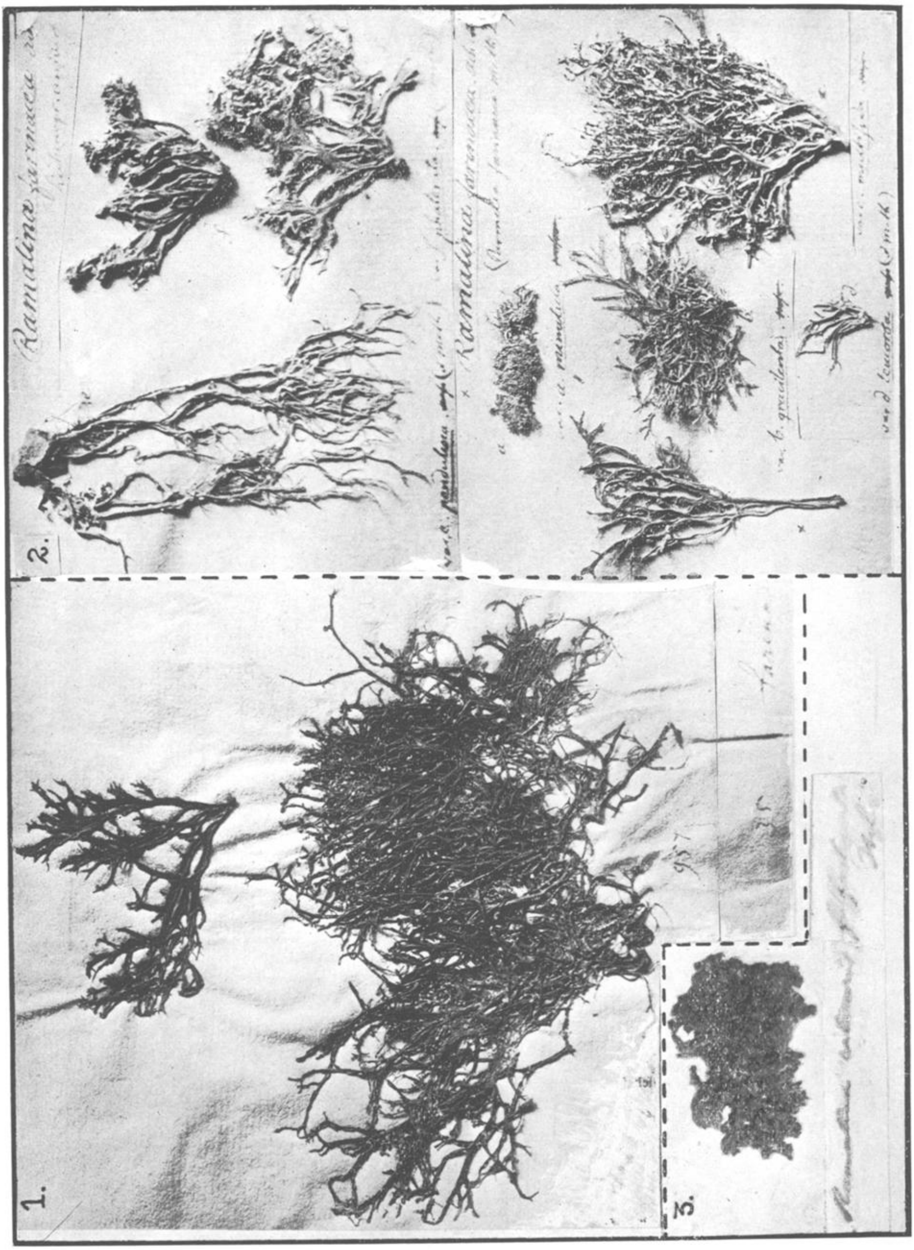
1.
2.
3.
Ramalina farinacea
var. c. pendulina
Ramalina farinacea
var. b. gracilenta

THE BRYOLOGIST

VOL. XVII JANUARY, 1914 No. 1

NORTH AMERICAN SPECIES OF THE GENUS RAMALINA.—PART III.

R. HEBER HOWE, JR.

Key to the Series *Myelopoeae* [*Continued*].*

Laciniae linear, slender	
Laciniae canaliculate, esoraliate................	*canaliculata*
Laciniae not canaliculate, soraliate	
Apices simple or subsimple...................	*farinacea*
Apices multifid or erose.....................	*intermedia*
Laciniae not linear	
Laciniae narrow, laciniate, apothecia scattered....	*fastigiata*
Laciniae wide, laciniate, apothecia lateral........	v. *subampliata*

Ramalina farinacea (L.) Ach.

SYNONYMY: *Lichen farinaceus* Linn. Spec. Plant. **2:** 1146. 1753.
Ramalina farinacea Ach. Lich. Univ. 606. 1810.

TYPE: In the Linnean herbarium, Burlington House, London, *fide* author.

TYPE LOCALITY: "Europae," l. c.

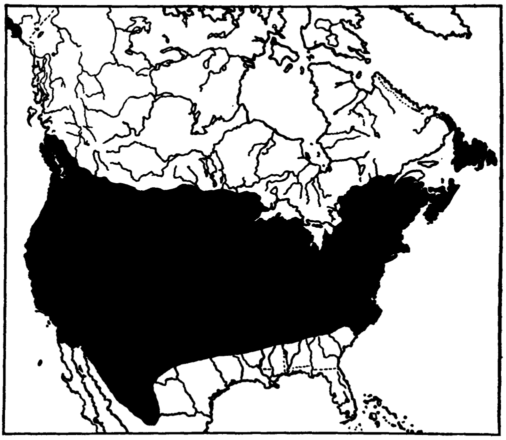

FIG. 1—Distribution of *Ramalina farinacea.*

ORIGINAL DESCRIPTION: "foliaceus erectus compressus ramosus farinaceus: lateribus verrucosis." l. c.

FIGURE: Ach. Kongl. Vet. Acad. Nya Handl. Stock. **18:** *Pl. II, f.* 1. 1797. Smith, Engl. Bot. *Pl. 889.* 1801.

DIAGNOSIS: *Thallus* caespitose, subcompressed, *linear*, subrigid, *laterally soraliate*, apothecia marginal, spores straight.

DESCRIPTION: *Thallus* caespitose (max. length 10 cm.), subrigid, pale virescent to pale stramineous; *cortex* glabrous, longitudinally subrugose, soraliate; *laciniae*

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* Because of lack of space, *R. fastigiata* var. *subampliata* and *R. canaliculata* will appear in the March issue.—Ed.

The November number of THE BRYOLOGIST was published Dec. 27, 1913.

linear, subterete to compressed, rarely subcanaliculate, (max. width 2 mm.) dichotomous, apices attenuate.. *Apothecia* rare, marginal, concave at length convex, marginate becoming immarginate (max. diam. 2.5 mm.), disk buff; *spores* ellipsoid, straight[1].

CONTINGENT PHASE: (*a*) Laciniae pendulous, slender (= *Ramalina farinacea* γ *pendula* Ach.). TYPE: At Helsingfors. TYPE LOC.: Not given. ORIG. DESCR.: "thalli laciniis angustatis elongatis dependentibus." 1. c. (*b*). Dicroic. (*c*). Blackening. (*d*). Laciniae wide (4mm.), = *R. farinacea* f. *latus* Merr. BRYOLOGIST **11**: 49. 1908[2]) or (=? *P. farinacea* f. *phalerata* Ach. Meth. Lich. 264. 1803[3]).

SUBSTRATA: On trees, old wood, and rarely on rocks.

DISTRIBUTION: Common in the Transition and Boreal Zones throughout our area, from Alaska (*Bean* and *Rothrock*) south to Mexico and from Newfoundland (Labrador, *Arnold*) to North Carolina.

STATIONS: MAINE: Cape Elizabeth; Camden; Megunticook Lake; Knox Co.; Southwest Harbor; Islesboro; Warren; New Harbor; Castine. NEW HAMPSHIRE: Mt. Moosilauke. VERMONT: Colchester; Charlotte; Branford; Woodstock. MASSACHUSETTS: Scituate; Brewster; Orleans; Nantucket; New Bedford; Barnstable. RHODE ISLAND: Noyes Beach. NEW YORK: Wilmington Notch; Ausable Chasm; Ellenville; Chilson Lake. DISTRICT OF COLUMBIA: Liberty Creek. TENNESSEE: Lookout Mt. OHIO: Fayette Co. MEXICO: Cima. CALIFORNIA: Santa Monica; Santa Cruz Island; Long Bridge; Santa Cruz; Nordhoff; Golden Gate; Black Mt.; Pigeon Pt.; Devil's Cañon; Searsville; Austrian Gulch; San Diego; Santa Barbara. OREGON: Sea coast; Portland; Albany; Dallas; Sanvier's Island. WASHINGTON: Mt. Alice; Friday Harbor; Arcas; Tenino; Seattle; Lake Washington. BRITISH COLUMBIA: Renfrew; Victoria; New Westminster; Pender Island; Hastings; Alert Bay; Thurlow Island; Carmannah; Comox; Nalulot; Cape Beale. ALASKA: Nyak Bay. MONTANA: Columbia Falls. WYOMING. MINNESOTA: Harding; Mainland; Grand Portage; Palisades; Pipestone; Rainy Lake City; Taylor's Falls; Upis; Minneapolis; Snow Lake; Beaudette. IOWA: Clayton Co. ONTARIO: Belleville; Algoma Pt.; Ottawa. NOVA SCOTIA: Baddeck; Grand Narrows. QUEBEC: Rigaud Mt.; Oka; Bic River; Gaspé; Anticosti. PRINCE EDWARD ISLAND: Brackley Pt. NEWFOUNDLAND: Stevenville; New Harbor; Chance Cove; Spread Eagle.

OBSERVATIONS: The species is best distinguished by its linear, slender, non-fistulous, soraliate, rarely sorediate thallus. The reduced, erose, saxicolous examples here referred by Tuckerman (Merrill, BRYOLOGIST **11**: 51, 52. 1908) represent *Ramalina intermedia* Nyl. of modern authors (= ? *α minutula* Ach.). They may be separated from *pollinaria* by their soraliate as well as sorediate linear laciniae, and from *pollinariella* by their eforaminous, non-dendroid, erose apices. Though having both a positive and negative reaction with KOH, apparently in some way attributable to the type of substratum, the plant is not easily confused with *subfarinacea*. The species (*farinacea*) has been said to represent a somewhat depauperate condition of what has been termed the *calicaris* stock. As it occasionally, however, develops apothecia (BRYOLOGIST *ibid.* 49) it may be regarded as a species of which there are recognized in Europe many varieties and contingent forms. Only one such has been described from our area, i. e. *latus*, from San Juan Island, Washington. Mr. Merrill considers it contingent in that he says its "peculiar condition [extremely broad laciniae (9 mm.)] is probably due to its growth in an excessively moist situation." It may prove to be synonymous with both *phalerata* Ach. and *frondosa* Oliv.

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[1] Described as curved by Herre: the only fruited California plant examined by me had straight spores. NOTE—A straight spore must have its *axis* straight. A substraight spore must have *one* side-wall straight,—its axis may be thus a little bent. A curved spore must have *both* walls and its axis distinctly bent.

[2] TYPE LOC.: "San Juan Island, Wash." ORIG. DESCR.: "Extremely broad laciniae (9 mm.), with the soredia marginal and terminal."

[3] TYPE LOC.: Not given. ORIG. DESCR.: "thalli laciniis sursum latioribus planis incisis verrucoso-scabridis, apice & marginibus plerumque laciniato-proliferis."

EXSICCATI: *No. 113*, Lich. Boreali-Amer., Cummings, etc. "Brewster, Mass." Nov. 10, 1894. *L. A. Crocker.*

No. 182, Decades No. Amer. Lich., Cummings, etc. Same data as above.

No. 74, Lich. Exsic. Merr. "Warren, Maine." Aug. 17, 1909. *G. K. Merrill.*

No. 2, Canadian Lich., Macoun. "Victoria, V. I." May 6, 1893. *J. Macoun.* (In part *pollinaria*). *No. 106*, *ibid.* Comox, V. I., May 3, 1887 (called var. *canaliculata* Fr.)

No. 57, Lich. Novae Angliae, Howe. "Wellfleet," Mass., April 7, 1913.

NOTE: *Ramalina farinacea* var. *dendroides* Müll. Arg. Flora **71**: 492. 1888. This variety, which I have not seen, was recorded from Porto Rico.

Ramalina farinacea var. *pilosella* (Hue) Merrill. This supposed variety was recorded from Sandy Cove, N. S. (BRYOLOGIST **12**: 40. 1909) by Miss J. Lowe. Mr. Merrill writes me that the combination was an error of Miss Lowe, or I should think possibly of the printer; the combination refers to *Parmelia crinita* var. *pilosella* (Hue) Merrill (l. c. 39).

Ramalina intermedia Nyl.

SYNONYMY: *Ramalina intermedia* Nyl. Recog. mono. Ram. 166, [68] 1870.

TYPE: In the Museum d'Histoire naturelle, Paris, *fide* author.

TYPE locality: "Terra Nova," "saxicola" Nyl. The type was, however, growing on a twig.

ORIGINAL DESCRIPTION: "Similis *Ramalinae minusculae* typicae, sed thallo nonnihil firmiore, apicibus facile sorediiferis (sorediis subgloboso-granulosis); sterilis modo visa," *l. c.*

FIGURE of type to appear in *Plant World*, 1914.

OBSERVATIONS: This Nylander species, though placed under his Stirps *Ramalinae pusillae* was later moved by Crombie so as to follow *Ramalina farinacea*, of which he called it a subspecies. Only two authors have recorded this species from our area: Vermont, *Dutton;* Maine, Labrador, and Newfoundland, *Eckfeldt.* The "fistulosus vel subfistulosus" characterization of the *pusillae* group has been except for a few species an uncertain distinction which I am modifying here. It is difficult to grant for *intermedia* more than subspecific rank, and the plants seem to be explained as abraded, erose, generally saxicolous states of *farinacea.* It seems to the author that lichenologists have failed sufficiently to credit lichens with stages of arrested growth during development, and that we find names given to undoubted intermediate* conditions. Half grown or abortive specimens, for example, are given the name *minutula,* and yet all realize the slow growth of lichens, and must recognize that they have innumerable stages of development entirely undeserving of name. The abbé Harmand recognizes this Acharian form *minutula,* saying: "C'est l'espèce a l'estat jeune ou arretee pas une cause quelconque dans son développment." Perhaps it is not, that he stopped in his collecting to gather specimens only partially grown, as he suggests. Would we give a half-grown oak any further title than immature, or one that was dwarfed in development, a varietal name? The variety *pendula* he recognizes is only the opposite extreme. *R. intermedia* as originally described was a saxicolous rather than a corticolous plant.

I am listing below plants referable here, and not including them with the former species:

Exsiccati: *No. 179,* Lich. Boreali-Amer., Cummings, etc. "Weston, Mass." April 22, 1891. *C. E. Cummings.* (called *R. pollinariella* Nyl.)

No. 91, Lich. Exsic., Merrill. "Rockland, Maine." July 11, 1909. *G. K. Merrill.*

No. 152, Decades N. A. Lich., Cummings. Dell Rapids, S. D. Sept., 1894. *T. A. Williams.* (called *R. pollinariella.*)

Stations: Maine: Rockland. New Hampshire: Franklin; Hinsdale; Gilford; Fitzwilliam; Peterboro. Vermont: Charlotte; Brandon. Massachusetts: East Gloucester; New Bedford; Concord; Scituate; Weston; Nonquitt; Lynn. Rhode Island: Middletown. Connecticut: South Canterbury; Mt. Carmel. New York: Fisher's Island; Ellenville. New Jersey: Cloister. Pennsylvania: Coopersburg. North Carolina: Crowder's Mt. Tennessee: Lookout Mt. Virginia: Bald Knob. Louisiana: Pt. a la Hache. Alberta: Lake Athabasca. Minnesota: Grant's Falls; Beaver Bay; Taylor's Falls. Iowa: Clayton Co., Boone Co. Ontario: Thunder Bay; Nipigon; Porphyry Island. Quebec: Oka.; St. Anne des Monts. Labrador: L'Anse au Clair. Newfoundland: Exploits; Sable Island.

Ramalina populina (Hoffm.) Wain.

Synonymy: *Lichen populinus* Ehrh. Crypt. Exsic. 276. 1785-93. *Nomen nudum.*

Lobaria populina Hoffm. Fl. Deutsch. **3**: 140. 1795.
Ramalina populina Wain. Nat. Syn. Lich. 21. 1886.
Ramalina fastigiata (Pers.) Ach., *sensu* Nylander.

See Olivier, *Ramalina pollinaria* var. *intermedians.*

TYPE: *No. 276*, Crypt. Exsic., Ehrhart. 1785-93 and in the Hoffman herbarium at Moscow?

TYPE LOCALITY: Not given.

ORIGINAL DESCRIPTION: None was given by Ehrhart; Hoffmann first described the species. "Erecta cespitosa laciniata: laciniis superne dilatatis turgidis fastigiatis." Hoffm. Fl. Deutsch. **3**: 140. 1795.

FIGURE: Ach., Kongl. Vet. Acad. Nya Handl. Stockholm **20**: *Pl. 9, f. 1A*. 1799.

Westring, Svenska Lafvarnas Färghistoria *Pl. 12, f. E.* 1806.

OBSERVATIONS: This species so long attributed to the lichen flora of our area, except by Nylander, I have not as yet found represented, even growing on *Populus*, when morphologically always most typical. Mr. Merrill also states that he has "seen no *R. fastigiata* (*sensu* Nyl.) from American sources. The typical plant is a large fastigiate species, with terminal, corymbose apothecia and curved spores. It is the common European plant, ours being smaller with *straight* spores. Ehrhart's name, recognized by Drs. Wainio, Brandt, and Zahlbruckner, is a ***nomen nudum*** according to the International Code, and the species must be attributed to Hoffmann. Dr. Th. Fries's citation "et Fig" of an Ehrhart plate (Lich. Scand. 35. 1871) which Dr. Wainio refers to, was an error. Ehrhart published no plates so far as I can learn.

Ramalina fastigiata (Pers.) Ach. emend.

SYNONYMY: *Lichen fastigiatus* Pers. Usteri Ann. Bot. **7**: 256 [156]. 1794.
Ramalina fastigiata Ach. Lich. Univ. 603. 1810.
Ramalina calicaris var. *subfastigiata* Nyl. Recog. mono. Ram. 132. 1870.
Ramalina calicaris var. *subampliata* Nyl. Recog. mono. Ram. 132. 1870. In part.
Ramalina calicaris β *fastigiata* Fr., *sensu* Tuckerman.

TYPE: In 'S Rijks Herbarium Leyden, Holland, *fide* author.

TYPE LOCALITY: Not given: Seven specimens compose the type material, one from "America," one from "Maryland, Amer." The others without localities. It is quite evident from an examination of material that this plant is not *populina* of Ehrhart as commonly cited, for the latter species is not known from our area. Though in examining the Persoon and Ehrhart types I have of course not felt at liberty to expose the spores, yet the two plants give every external evidence of representing the two distinct species. Moreover, Persoon's plants came from a region (America) where plants with

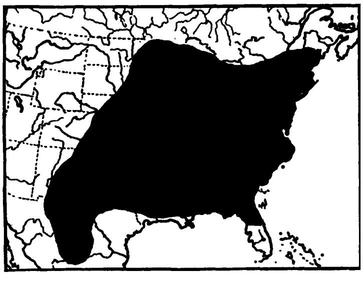

FIG. 2.—Distribution of *Ramalina fastigiata*.[1]

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[1] One somewhat atypical plant from Alberta is not indicated in *Fig. 2*.

curved spores have never been found. It seems evident, then, that *Ramalina fastigiata* (Pers.) represents a large part of the material recently referred to *R. calicaris* (Hoffm.) Fr. (*sensu* Nyl.) and *R. calicaris* (L.) Fr. (*sensu* Wainio) as well as *R. calicaris* var. *subfastigiata* Nyl. (*sensu* Nyl. and Merrill).

ORIGINAL DESCRIPTION: "Cespitose ramosa: ramis sursum dilatatis fastigiatis inermibus: scutellis subterminalibus." l. c.

FIGURE: *Pl. II, f. 2.*

DIAGNOSIS: *Thallus* caespitose, *compressed, laciniate,* subrigid, apothecia *scattered,* spores *straight.*

DESCRIPTION: *Thallus* caespitose (max. length 5 cm.) subrigid, pale virescent to virescent; *cortex* glabrous, sublacunose, subcanaliculate; rarely papillate, *laciniae* laciniate, compressed (max. width 4 mm.), dichotomous, apices attenuate. *Apothecia* common, marginal, lateral, or subterminal, concave at length convex, marginate or immarginate, (max. diam. 5 mm.), disk buff. *Spores* ellipsoid, straight.

CONTINGENT PHASES: (*a*) Small, crowded, canaliculate, but not linear, apothecia terminal (= R. *calicaris* var. *subfastigiata* Nyl.) Orig. Desc.: "Similis *Ramalina fastigiatae* (saepius breviori), sed sporae ellipsoideis rectis," l. c. (*b*) Laciniate (alt. 6 cm.), (= *R. calicaris* var. *laciniata* Harm.), but spores straight. (*c*) Laciniae longitudinally rugose (= *R. fastigiata* var. *nervosa* Nyl.), but spores straight. (*d*) Abraded, and blackening.

SUBSTRATA: On trees, shrubs, old wood and rarely rocks.

DISTRIBUTION: Common in the Upper Austral and Transition zones, replaced largely in the lower Boreal by the following species. Its range extends from Maine to Alberta and from Florida to Mexico and California. Macoun reports it also from British Columbia.

STATIONS: ONTARIO: Belleville; Algonquin Park; Edmonton; Brighton. MAINE: Camden; Scarboro; Westbrook; Ambejejus Lake; Orono; West Pembroke; Cumberland. NEW HAMPSHIRE: Gilford; Rye; Fitzwilliam; Peterboro; Mt. Monadnock; Hanover; Jackson; Clinton Mt.; Ossipee; Franconia; Chatham; Warren Hollis. VERMONT: Mt. Ascutney; Brandon; Charlotte; Colchester; Mt. Mansfield. MASSACHUSETTS: Berkshire; Duxbury; Concord; Ipswich; Mattapoisett; Kingston; Nonquitt; Townsend; Ashby; Littleton; Scituate; Bedford; Natick; Wellesley; New Bedford; Waltham. RHODE ISLAND: Bristol. CONNECTICUT: Central Village; South Canterbury; Stofford. NEW YORK: Fisher's Island; Mt. Meenahga; Chilson Lake; Canadaigua; East Galway. NEW JERSEY: Alco; Cloister; Newfield. PENNSYLVANIA: Haverford; Paoli; Philadelphia. MARYLAND: Cabin John. NORTH CAROLINA: Marshall. SOUTH CAROLINA: Santee. FLORIDA: Jacksonville. LOUISIANA: St. Martinsville. OHIO: Cincinnati. ILLINOIS: Canton; White Heath. IOWA: Fayette. MICHIGAN: Mackinac Island. MINNESOTA: Red Lake; South Haven; Beaver Bay; Auburndale. ALBERTA: Kananaskis. NOVA SCOTIA: Truro. QUEBEC: Montmorency. MEXICO: Cuzamaboga.

OBSERVATIONS: This exceedingly variable *straight*-spored species is not easily determined except by means of elimination. The boreal, delicate, linear, canaliculate plants must be referred to *R. canaliculata* (Fr.) Herre; the broad-lobed forms with *only* lateral apothecia to *subampliata;* all others belong to the species. That they all intergrade and represent one species is undoubted, but

I hesitate to form the new combinations necessary to distinguish them as such, especially as the tendency in nomenclature is to do away with varietal distinctions as much as possible. Nylander attributed his *subfastigiata* to our area (a contingent well-marked phase of the present species) but evidently had not seen *subampliata* from America, Mr. Merrill being the first one to attribute it to our lichen flora.

EXSICCATI: *No. 5*, Lich. Boreali-Amer., Cummings, etc. "Plymouth, N. H." May 28, 1891. *C. E. Cummings.* (in part *R. canaliculata.*)

No. 43, Decades N. A. Lich., Cummings, etc. Same as above.

No. 7, Lich. Novae Angliae, Howe. Ashby, Mass., Dec. 28, 1905. *R. H. Howe, Jr.*

No. 45, in part, Lich. Novae Angliae, Howe. Fitzwilliam, N. H. Aug. 8, 1909. *R. H. Howe, Jr.*

No. 172, Canad. Lich, Macoun. Brighton, Ont., Oct. 16, 1893.

[*To be Continued.*]

EXPLANATION OF PLATES I AND II

Plate I

1. The Linnean type of *Lichen farinaceus* at London (nat. size).
2. B. Authentic Acharian material of *Ramalina farinacea*, varieties *pendula*, *phalerata*, *minutula*, *gracilenta*, *leucorsa*, and *multifida* at London (nat. size).
3. Nylander type of *Ramalina calicaris* var. *subfastigiata* at Helsingfors (slightly reduced).

Plate II

1. The Nylander type of *Ramalina calicaris* var. *subampliata* at Helsingfors (nat. size).
2. The Persoon type of *Lichen fastigiata* var. *calicaris* at Leiden (nat. size).
3. The Fries type of *Ramalina calicaris* var. *canaliculata* at Upsala (nat. size).
4. One of the Ehrhart types of *Lichen populinus* at Kew (slightly reduced).

NOTES ON NOMENCLATURE—XII

ELIZABETH G. BRITTON

Since the completion of the mosses in the Engler and Prantl *Pflanzenfamilien* when my last note was printed[1] a number of corrections and additions have come to our notice. Last year in the *Revue Bryologique*[2] Monsieur Cardot has been giving a series of notes which it would seem worth while to condense and repeat in the BRYOLOGIST and we have also a few changes of our own to make which have reposed in our herbarium for some time, and which it behooves us to put on record.

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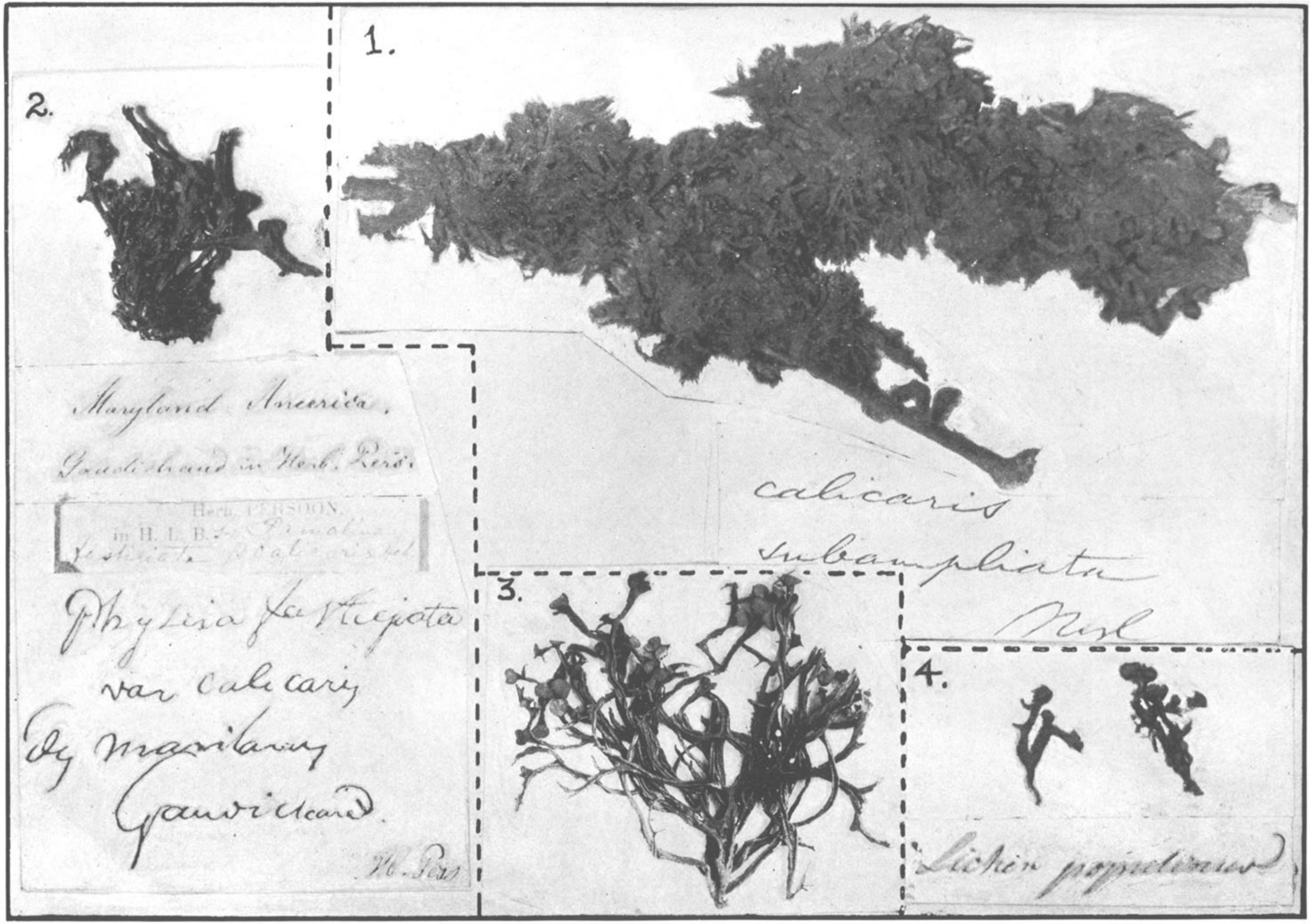
[1] BRYOLOGIST **12**: 62–63. May 1909.

[2] Revue Bryologique **40**: 17–22, 40–45. 1913.


1.
2.
3.
4.
Maryland America.
Gaudichaud in Herb. Pers.
Herb. PERSOON.
in H. L. B.
Physcia fastigiata
var calicaris
β marilana
Gaudichaud.
H. Pers.
calicaris
subampliata
Nyl
Lichen populneus